# 

# (11) **EP 3 121 076 A3**

(12)

# **EUROPEAN PATENT APPLICATION**

- (88) Date of publication A3: 26.04.2017 Bulletin 2017/17
- (51) Int Cl.: **B60T** 7/22<sup>(2006.01)</sup> **B62D** 15/02<sup>(2006.01)</sup>

Fig.2

B60Q 1/46 (2006.01)

- (43) Date of publication A2: **25.01.2017 Bulletin 2017/04**
- (21) Application number: 16180399.4
- (22) Date of filing: 20.07.2016
- (84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

**Designated Extension States:** 

**BA ME** 

**Designated Validation States:** 

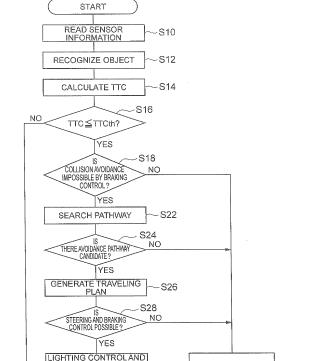
MA MD

(30) Priority: 21.07.2015 JP 2015144099

- (71) Applicant: Toyota Jidosha Kabushiki Kaisha Toyota-shi, Aichi-ken, 471-8571 (JP)
- (72) Inventor: NISHIMURA, Motoki Aichi-ken, Aichi 471-8571 (JP)
- (74) Representative: D Young & Co LLP 120 Holborn London EC1N 2DY (GB)

#### (54) VEHICLE CONTROL DEVICE

(57) In a vehicle control device, detection of an object around a vehicle is performed, when it is determined that there is a possibility that the vehicle may collide with the object, whether or not a collision can be avoided by braking control of the vehicle is determined, and when it is determined that a collision cannot be avoided by the braking control, steering and braking control to avoid a collision by both steering of the vehicle and braking of the vehicle is performed and at the same time, flashing of a direction indicator is started, and when the vehicle has stopped, flashing of hazard flashing indicators is performed.



S30

STEERING AND BRAKING

CONTROL

END

BRAKING CONTROL

S20

EP 3 121 076 A3



## **EUROPEAN SEARCH REPORT**

Application Number

EP 16 18 0399

5		
10		
15		
20		
25		
30		
35		
40		
45		
50		

55

Category	Citation of document with indication, when the control of the cont	here appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Υ	of relevant passages  DE 10 2014 224179 A1 (TOYO [JP]) 3 June 2015 (2015-06) * abstract * * paragraphs [0040] - [004] [0053] * * figures 1-3 *	5-03)	1-3	INV. B60T7/22 B60Q1/46 B62D15/02
Υ	EP 2 098 423 A1 (NISSAN MC 9 September 2009 (2009-09- * abstract * * figures 2-4,8,15,17-19 *	-09)	1-3	
Υ	US 2012/078466 A1 (NATORI AL) 29 March 2012 (2012-03 * abstract * * claim 1 * * figures 1,5 *		1-3	
Υ	US 2004/100373 A1 (PONZIAN [US]) 27 May 2004 (2004-05 * abstract; figures 1,5 *	NI RICHARD L 5-27)	1-3	TECHNICAL FIELDS SEARCHED (IPC)
A	DE 10 2009 034386 A1 (FUJI [JP]) 4 February 2010 (201 * abstract * * paragraph [0042] * * figures 1,3 *		1-3	B60Q B60T B62D B60W
	The present search report has been drawn	up for all claims  Date of completion of the search		Examiner
	Munich	16 March 2017	Chr	ristensen, Juan
X : part Y : part docu A : tech	ATEGORY OF CITED DOCUMENTS  icularly relevant if taken alone icularly relevant if combined with another iment of the same category inological background -written disclosure	T: theory or principle E: earlier patent docu after the filing date D: document cited in L: document cited for	underlying the i ument, but publi the application other reasons	nvention shed on, or

## EP 3 121 076 A3

#### ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 16 18 0399

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-03-2017

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
15	DE 102014224179 A1	03-06-2015	CN 104670226 A DE 102014224179 A1 JP 5988170 B2 JP 2015104996 A US 2015151749 A1	03-06-2015 03-06-2015 07-09-2016 08-06-2015 04-06-2015
20	EP 2098423 A1	09-09-2009	CN 101524994 A EP 2098423 A1 JP 5272448 B2 JP 2009213251 A US 2009228174 A1	09-09-2009 09-09-2009 28-08-2013 17-09-2009 10-09-2009
25	US 2012078466 A1	29-03-2012	DE 102011053919 A1 JP 2012071677 A US 2012078466 A1	29-03-2012 12-04-2012 29-03-2012
30	US 2004100373 A1	27-05-2004	AU 2003294496 A1 US 2004100373 A1 US 2005248449 A1 US 2007120661 A1 WO 2004049123 A2	18-06-2004 27-05-2004 10-11-2005 31-05-2007 10-06-2004
35	DE 102009034386 A1	04-02-2010	DE 102009034386 A1 JP 5345350 B2 JP 2010030513 A US 2010030474 A1	04-02-2010 20-11-2013 12-02-2010 04-02-2010
40				
45				
50				
55 FORM P0459				

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82